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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DAVID JAU YOUNG LEE, CE XU, and WILLIAM
CHIEN-YEH LEE

Appeal 2008-5620
Application 09/589,974
Technology Center 2400

Decided¹: February 6, 2009

Before KENNETH W. HAIRSTON, JOHN A. JEFFERY, and BRADLEY
W. BAUMEISTER, *Administrative Patent Judges*.

BAUMEISTER, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF CASE

Appellants appeal under 35 U.S.C. § 134 (2002) from the Examiner's rejection of claims 1-12. We have jurisdiction under 35 U.S.C. § 6(b) (2002). We affirm.

¹ The two- month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. §1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

A. Appellants' invention

Appellants' invention relates to an internet protocol-based cellular telephone communications system that includes either a router or a handoff server (Br. 2-3).

B. The claims

Independent claims 1, 6 and 12 are illustrative. They read as follows:

1. An internet protocol-based cellular telephone communications system, comprising:

a router;

a foreign agent (FA), coupled to the router;

a base transceiver station (BTS), coupled to the router, for communicating with a mobile telephone within a transmission area associated with the base transceiver station, wherein the router communicates with the base transceiver station using a cellular network interface; and

a home agent (HA), coupled to the router, wherein the home agent communicates with the router and the foreign agent for registering mobile telephones and transmitting messages using an inter-protocol network separate from the cellular network;

wherein messages are transmitted using the internet protocol network between the home agent and the router, and messages are transmitted using the cellular network interface between the router and the base transceiver station.

6. An internet protocol-based cellular telephone communications system, comprising:

a handoff server (HS);

a base transceiver station (BTS), coupled to the handoff server, for communicating with a mobile telephone within a transmission area associated with the base transceiver station, wherein the handoff server communicates with the base transceiver station using a cellular network interface; and

a home agent (HA), coupled to the handoff server, wherein the home agent communicates with the handoff server for transmitting messages using an internet-protocol network separate from the cellular network;

wherein messages are transmitted using the internet protocol network between the home agent and the handoff server, and messages are transmitted using the cellular network interface between the handoff server and the base transceiver station.

12. A method for communicating over an internet protocol-based communications network, comprising:

sending a message from a home agent (HA) to a router over an internet protocol based network;

forwarding the message from the router to a base transceiver station (BTS) using a cellular network interface, wherein the cellular network is not part of the internet protocol based network; and

forwarding the message from the base transceiver station to a mobile telephone that is within a geographical communications zone of the base transceiver station.

C. The references and rejections

The Examiner relies on the following prior art references to show unpatentability:

Frid	US 6,137,791	Oct. 24, 2000 (filed Mar. 25, 1997)
Olkkonen	WO 98/43456 A1	Oct. 1, 1998

Claims 1, 2, 5, 6, and 9-12 stand rejected under 35 U.S.C. § 102(e) as anticipated by Frid.

Claims 3, 4, 7 and 8 stand rejected under 35 U.S.C. § 103(a) as obvious over Frid in view of Olkkonen.

Rather than repeat the arguments of the Appellants or the Examiner, we refer to the Brief and the Answer for their respective details.² In this decision, we have considered only those arguments actually made by Appellants. Arguments which Appellants could have made but did not make in the Brief have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

ISSUE

The Examiner asserts that the router of claims 1 and 12, and the handoff server of claim 6, both read on Frid's Visited Mobile Switching

² We refer to (1) the Appeal Brief filed Aug. 15, 2007; and (2) the Examiner's Answer mailed Mar. 16, 2007 throughout this opinion.

Center (VMSC) 40, and, as such, Frid discloses all elements of independent claims 1, 6 and 12 (Ans. 3-5).

Appellants assert that Frid's VMSC is neither a router as defined in Appellants' Specification (Br. 5-9) nor a handoff server as defined in Appellants' Specification (Br. 9-10).

Resolution of the issue turns on (1) whether Frid's VMSC may be reasonably interpreted to be a "router;" and (2) whether Frid's VMSC may be reasonably interpreted to be a "handoff server."

FINDINGS OF FACT

The record supports the following Findings of Fact (FF) by a preponderance of the evidence:

1. Frid discloses a system and method for enabling a mobile station to send and receive both voice and data packet communications, even while roaming between a first mobile network using one type of data packet communications standard and a second mobile network using a data packet communications standard that is incompatible with the first standard (Abstract; cols. 1-2). The system includes (see e.g., fig. 3) a plurality of base stations (or "base transceiver stations") (BSs) 30 that provide radio coverage over a plurality of geographical areas (col. 4, ll. 28-31). A particular BS connects to an associated visited mobile switching center (VMSC) 40 for "routing and processing communicated data" (col. 4, ll. 14-18, emphasis added). VMSC 40 communicates with an associated backbone network to communicate (or "route") normal voice data with a specified

destination terminal (col. 4, ll. 19-21). The VMSC 40 of fig. 3 communicates (or “routes”) internet protocol (IP) packet data separate from the voice data via a home agent (HA) 320 and foreign agent (FA) 310 (col. 6, ll. 33-39). The FA 310 is further equipped with a serving router (SR) (depicted in fig. 3 as combination FA/SR 310) for routing received packet data (col. 6, ll. 41-43). The FA 310 communicates with the HA 320 via an established IP tunnel 330 (col. 7, ll. 15-21).

2. Appellants have not asserted any definition for the terms, “router,” “handoff server,” or “cellular network interface.”
3. Appellants’ Specification contains no express definition for the terms, “router,” “handoff server,” or “cellular network interface.”
4. Appellants have not rebutted the accuracy of the Examiner’s definition of the terms “router,” and “handoff server.”
5. In some embodiments, Frid’s VMSC controls, or is involved in, the handoff of a traveling MS (e.g., Fig. 3; col. 7, ll. 46-62).
6. Appellants acknowledge that Frid discloses a foreign agent and serving router (Br. 9: 8-11)
7. In the context of computers, an “interface” is defined as “equipment or programs designed to communicate information from one system of computing devices or programs to another” (<http://dictionary.reference.com/browse/interface>, definition 6).
8. Frid discloses that the HA is involved in the MS registration protocol both for (1) when a mobile phone of a Mobile IP Method (MIM) home network is roaming in a visited Personal Digital Cellular Mobility Method (PMM) network (col. 7, l. 63-col. 8, l. 12) and also (2) when a mobile phone

of a PMM home network is roaming in a visited MIM network (col. 11, l. 42-col. 12, l. 12).

9. Frid discloses that the serving router may include a Mobile IP Client Emulator (MICE), and the MICE performs handover from a first visiting switching center (VMSC1) to a second (VMSC2) (col. 11, l. 42 – col. 12, l. 67; figs. 8-10).

PRINCIPLES OF LAW

1. “Before considering the rejections..., we must first [determine the scope of the] claims....” *In re Geerdes*, 491 F.2d 1260, 1262 (CCPA 1974).
2. During examination, the claims must be interpreted as broadly as their terms reasonably allow. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1369 (Fed. Cir. 2004).
3. Appellants have the burden on appeal to the Board to demonstrate error in the Examiner’s position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006).
4. It is the Appellants’ burden to precisely define the invention, not the PTO’s. *In re Morris*, 127 F.3d 1048, 1056 (Fed. Cir. 1997).
5. Appellants always have the opportunity to amend the claims during prosecution, and broad interpretation by the Examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. *In re Prater*, 415 F.2d 1393, 1404-05 (CCPA 1969).
6. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior

art reference.” *Verdegaal Bros., Inc. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

7. The test for anticipation is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990).

ANALYSIS

I. FRID’S VMSC MAY BE REASONABLY INTERPRETED TO BE A “ROUTER”

“Before considering the rejections..., we must first [determine the scope of the] claims....” *In re Geerdes*, 491 F.2d 1260, 1262 (CCPA 1974). During examination, the claims must be interpreted as broadly as their terms reasonably allow. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1369 (Fed. Cir. 2004).

Independent claim 1 recites an internet protocol-based telephone communications system that comprises, *inter alia*, a “router.” Independent claim 12 is directed towards a related method for communicating over an internet protocol-based communications network which includes sending a message from a home agent to a “router.” The rejections over Frid are premised on the rationale that Frid’s visiting mobile switching center (VMSC) fully meets a “router” as used in the claims (Ans. 3 and 10). To support this position, the Examiner cites a computer dictionary that defines a router as “an intermediary device on a communications network that expedites message delivery” (*Id.*). The Examiner asserts that this definition evidences the “plain meaning” of the term, “router” (*Id.*).

We find that the Examiner has established a *prima facie* showing of anticipation (FF 1), thereby shifting the burden of rebuttal to Appellants.

Appellants have the burden on appeal to the Board to demonstrate error in the Examiner's position. See *In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006).

Appellants implicitly dispute the Examiner's definition of "router," contending that a mobile switching center cannot be reasonably interpreted as anticipating a "router." For example, Appellants assert, "[the VMSC] of Frid is not a router, as defined in Appellants' specification. Instead, Appellants' invention removes the MSC from the architecture, and replaces the BSC (Base Station Controller) with a router that interfaces to the BTS (Base Transceiver Station). See, e.g., Appellants' specification at page 11, lines 21-23" (Br. 9).

Appellants' argument is not persuasive. This quoted passage merely explains how a router fits into Appellants' overall invention. This passage is not a definition of what a router is. Appellants have not asserted any objective definition for the term, "router" (FF 2). Appellants have not pointed to any other portion of the Specification that can be said to specifically and unambiguously define the meaning of the term, "router." In fact, our review indicates that the Specification contains no express definition of this term (FF 3). Nor have Appellants argued why Frid's VMSC cannot be deemed to be a router according to the Examiner's definition.

As such, Appellants have not reasonably questioned whether the Examiner's definition of "router" evidences the term's clear meaning, much less met their burden of proving the Examiner's definition is unreasonably broad or inconsistent with the Specification. Therefore, Appellants'

argument—that Frid’s VMSC is not a router as defined by the Specification—is merely an unsupported conclusion.

Had Appellants provided any reasonable, factual basis for why the claim term, “router,” could not be read on Frid’s VMSC, Appellants’ position may well have been persuasive.³ However, no such evidence or facts have been asserted on appeal. Against this background, we note that it is the Appellants’ burden to precisely define the invention, not the USPTO’s. *Morris*, 127 F.3d at 1056. Appellants always have the opportunity to amend the claims during prosecution, and broad interpretation by the Examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. *Prater*, 415 F.2d at 1404-05.

Appellants next argue that Frid’s VMSC cannot be interpreted as constituting a router because Frid is additionally equipped with a serving router (SR) that performs a routing function (Br. 9). However, as noted by the Examiner (Ans. 13), the fact that Frid’s SR may perform routing functions, in and of itself, is not dispositive of whether Frid’s VMSC may also be interpreted as being a “router.” It is certainly well settled that “[a]

³ Appellants could have provided evidence that alternative, narrower definitions of “router” exist. Appellants could have provided evidence that the term’s usage within the Specification requires application of a narrower definition, and more importantly, explained what these additional limitations or functionalities of the narrower definition specifically are. Appellants also could have explained why Frid’s VMSC lacks this additionally required functionality. For example, Appellants potentially could have provided evidence that in the context of the Specification, a router is a device capable of converting IP information in a packet-data form. Appellants could have then provided further evidence of why such functionality would not have been associated with Frid’s VMSC.

claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal*, 814 F.2d at 631. However, this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *Bond*, 910 F.2d at 832. Because Appellants have not explained why Frid’s VMSC cannot also be deemed to be a router, this argument is not persuasive.

Appellants also argue “there is no indication that the VMSC 40 is coupled to or communicates *directly* with the [home agent] 320 through the backbone network” (Br. 9, emphasis added). This argument is not persuasive. Neither of claims 1 and 12 requires the router to be coupled to or communicate with the home agent “directly.”

To summarize, the Examiner has established a *prima facie* showing of anticipation for claims 1 and 12. Appellants have not rebutted the Examiner definition of “router” (FF 4). As such, Appellants have not rebutted the Examiner’s *prima facie* showing of anticipation.

Appellants do not separately argue any additional limitations of dependent claims 2 and 5, which were also rejected as anticipated by Frid. With respect to the remaining obviousness rejection of claims 3 and 4, Appellants provide no patentability arguments directed to the additional reference to Olkkonen. Rather, Appellants repeat arguments directed to claim 1 and apply them to the remaining rejection (Br. 11). Accordingly, for the reasons discussed above, we will sustain the rejections of claims 1-5 and 12.

II. FRID’S VMSC MAY BE REASONABLY INTERPRETED TO BE A “HANDOFF SERVER”

Independent claim 6 is similar to claim 1, also being directed towards an internet protocol-based cellular telephone system. In contrast to claim 1, claim 6 recites a “handoff server” instead of a “router” and “foreign agent.” Similar to the rationale applied to claim 1, the Examiner takes the position that Frid’s VMSC fully meets the requirement of the “handoff server” (Ans. 5, ¶ 6). The Examiner’s basis for this conclusion is that Frid discloses (e.g., col. 7, ll. 51-60) that the VMSC effects the handoff process when a MS is traveling between geographical locations (Ans. 5, ¶ 6).

Appellants’ arguments with respect to the term, “handoff server,” of claim 6 are analogous to the arguments made regarding the term, “router,” of claims 1 and 12. Specifically, Appellants argue: (1) Frid’s VMSC is not a handoff server as defined by Appellants’ Specification; (2) Frid’s VMSC cannot be deemed to be a handoff server because Frid’s FA/SR performs a routing function; and (3) there is no indication that Frid’s VMSC is coupled to or communicates *directly* with the HA through the backbone network (Br. 9-10; emphasis added).

These arguments are not persuasive for reasons that are similar to the ones we have already set forth above in connection with the arguments regarding the term, “router.” The Examiner has provided a reasoned basis for his interpretation of the term, “handoff server” (Ans. 5, ¶ 6), shifting the burden of rebuttal to Appellants. Appellants haven not asserted any objective definition for the term, “handoff server” (FF 2). Appellants have not pointed to any other portion of the Specification that can be said to

specifically and unambiguously define the meaning of the term, “handoff server.” The Specification contains no express definition of this term (FF 3). Nor have Appellants argued why Frid’s VMSC cannot be deemed to be a handoff server according to the Examiner’s definition. The fact that Frid is equipped with FA/SR does not address the question of whether the VMSC may also be deemed to be a handoff server. Also, Appellants’ argument that Frid’s VMSC is not coupled to or communicating *directly* with the HA is not persuasive because claim 6 does not require direct coupling or communicating.

To summarize, the Examiner has established a *prima facie* showing of anticipation for claim 6. Appellants have not rebutted the Examiner definition of “handoff server” (FF 4). As such, Appellants have not rebutted the Examiner’s *prima facie* showing of anticipation.

Appellants do not separately argue any additional limitations of dependent claims 9-11, which were also rejected as anticipated by Frid. With respect to the remaining obviousness rejection of claims 7 and 8, Appellants provide no patentability arguments directed to the additional reference of Olkkonen. Rather, Appellants repeat arguments directed to claim 1 and apply them to the remaining rejection (Br. 11). Accordingly, for the reasons discussed above, we will sustain the rejections of claims 6-11.

III. ALTERNATIVE RATIONALES FOR SUSTAINING THE REJECTIONS

For the sake of completeness, we further note that even assuming *arguendo* that the term, “router,” must be interpreted more narrowly, such that Frid’s VMSC alone could not be reasonably interpreted to constitute

either a router or a handoff server, Frid still anticipates claims 1, 6 and 12 under two alternative rationales.

We start with the first alternative theory as it applies to the router. As illustrated in figure 3 of Frid, and as acknowledged by Appellants (FF 6), Frid does disclose a foreign agent coupled to a serving router, depicted as combination FA/SR 310 (FF 1). Under the first theory, the FA/SR 310 of Frid fully meets the foreign agent and router of claims 1 and 12 (FF 1). As Frid's VMSC communicates information among the BS 30, FA/SR 310 and the backbone network (e.g., Fig. 3), the VMSC may be deemed to constitute, or be included within, "a cellular network interface" (FF 7).

Applying these interpretations to the claims, the base transceiver station (BS 30) is coupled to the router, albeit indirectly via the VMSC 40 (FF1). The BS communicates with a mobile station or telephone 20 within a transmission area associated with the BS (FF 1). The router communicates with the BS using a cellular network interface that includes the VMSC 40 (FF 1). A home agent (HA 320) is coupled to the router (FF 1), wherein the home agent communicates with the FA/SR (FF 1) for registering mobile telephones (FF 8) and transmitting messages using an internet-protocol (IP) network (IP tunnel 330) (FF 1). As the IP tunnel 330 is specially established to communicate IP packet data, the IP tunnel 330 may be deemed to be distinct from the rest of backbone network of figure 3. Restated, the IP tunnel 330 may be deemed to be "an internet-protocol network separate from the cellular network." Messages are transmitted using the IP network between the HA and FA/SR (FF 1). Also, messages are transmitted using the cellular network interface between the router and the BS. That is,

messages pass from the FA/SR through the VMSC to the BS (FF 1). As such, claims 1 and 12 are anticipated.

Frid also discloses that the serving router may include a Mobile IP Client Emulator (MICE), and the MICE performs handover from a first visiting switching center (VMSC1) to a second (VMSC2) (FF 9). As such, any one of the MICE, the SR/MICE, or the SR/FA/MICE 1100 (e.g., fig. 8) may be viewed as reading on the claimed handoff server. Employing the rationale just applied to claims 1 and 12, claim 6 is likewise anticipated.

Under the second alternative theory, both of Frid's serving router and VMSC, considered together in combination, can be viewed as constituting a "router" as claimed (FF 1). Applying this second alternative interpretation to the claims, the communication link depicted in figure 3 as coupling the VMSC 40 and the BS 30 would read on the claimed "cellular network interface" (FF 7). As such, messages are transmitted using the cellular network interface *directly* between the router and the base station (FF 1). Therefore, claims 1 and 12 are anticipated under this alternative theory as well.

Furthermore, in some embodiments of Frid's invention, the VMSC controls the handoff (FF 5). As such, the combination of either the SR/VMSC or the FA/SR/VMSC may be interpreted as constituting the handoff server, as claimed (FF 1). The communication link between VMSC 40 and BS 30 (e.g., fig. 3) may be deemed to constitute "a cellular network interface" (FF 7).

Employing the rationale just applied to claims 1 and 12, claim 6 likewise is anticipated under the second alternative theory.

CONCLUSION OF LAW

For the reasons set forth above, we find that Frid discloses components that may be reasonably interpreted to be either a router or a handoff server, as claimed. Appellants have not shown that the Examiner erred in rejecting claims 1-12 under §§102 and 103.

DECISION

We sustain the Examiner's rejections with respect to all pending claims on appeal. Therefore, the Examiner's rejection of claims 1-12 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

gvw

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